



Model: WF350AN*/XAA

Please Note: There are version changes on this model, verify you are ordering the correct parts.

Fast Track Troubleshooting

IMPORTANT SAFETY NOTICE – “For Technicians Only” This service data sheet is intended for use by persons having electrical, electronic, and mechanical experience and knowledge at a level generally considered acceptable in the appliance repair trade. Any attempt to repair a major appliance may result in personal injury and property damage. The manufacturer or seller cannot be responsible, nor assume any liability for injury or damage of any kind arising from the use of this data sheet.

SUPPORT INFORMATION

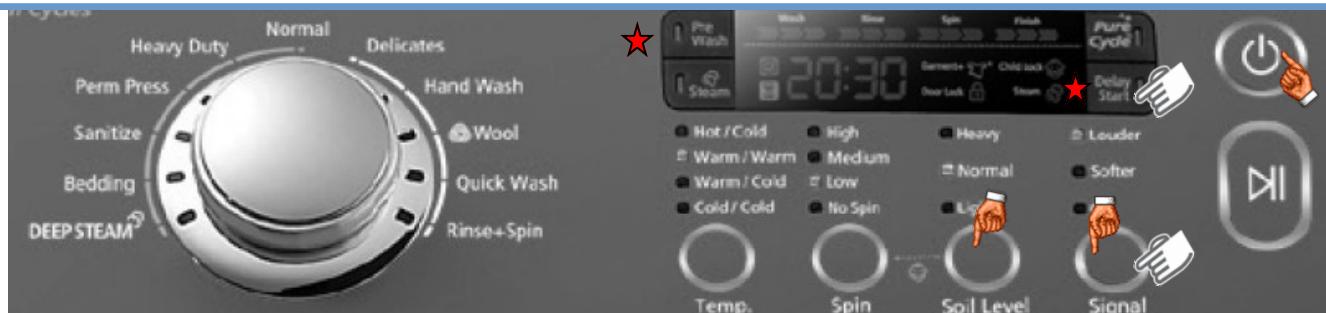
Training — Plus One <http://my.plus1solutions.net/clientPortals/samsung/>

Help — GSPN <http://service.samsungportal.com/>

Samsung Product Support TV <http://support-us.samsung.com/spstv/howto.jsp>

Customer information videos and chat programs. Programs for Fridges, Laundry, Ranges & D/W

Publication # **tsWF350** Revision Date 03/21/2011



Quick Test Mode:

Note: This test erases all faults and memory:

To enter press **Soil, Signal, & Power** simultaneously with the power off.

1. All LED's light up and the washer beeps as it enters the Quick Test Mode.
2. The unit displays the software version.
3. After the displaying the software version, turn Jog dial CCW until version disappears.

Press **Spin** to test Door Lock/Unlock circuit.

Press **Temp Key (with door locked)** to cycle through the Water Valves circuit test in this order: Pre, Bleach, Cold Main, Hot, Steam then off.

Press **Soil Key** to test the Heater

Press **Signal Key** to test the Pump

Spin Only option:

Power on, Press and hold **Spin** until display changes.

Press **Spin** to select spin time.

Press **Start/Pause** to start cycle, Normal Cycle 10/12 minutes, Heavy Duty Cycle 11/13 minutes, Delicate Cycle 8 minute. Spin speed varies with cycle.

EEPROM Clear Check

Power off, Press Delay Start, Signal and Power Key at the same time. Good = Good Fail = FAIL

All memory will be cleared, including Fault Codes

This should be done when a new Main PCB is installed

Fabric Softener Dispenser Test:

Start Rinse and Spin Cycle. After fill is completed remove detergent drawer, place towel below opening and within 3 minutes the dispenser will activate

Service Mode:

This mode allows more detailed operation tests and troubleshooting, to enter **press Signal & Delay Start simultaneously with the power on.**

While in Service Mode (the Service Mode can be entered while the unit is in a wash cycle) the following tests can be performed:

Quick Spin Test = Delay Start & Pre Wash: This accelerates the drum motor from 0 to maximum RPM over a few minutes. Press the Start/Pause button during the test to hold its spinning speed up to 10 min. before going back to Quick Spin Test Mode, return to spin with **Delay Start & Pre Wash.**

Cycle Count = Press the **Signal** button to see how many times the unit was used.

Soft Ware # = Press the **Soil Level** button to see the software version information.

Fault Code Test = Press the **Pure Cycle** button to view the stored fault codes – then turn Dial to view error codes (Push Start/Pause while the code is displayed to view the number of cycles since the error occurred, push Start/Pause again to get back to faults)

Peripheral (Main PCB) input Tests, enter Service Mode & press Spin key.

1. Turn the Dial so that the **Steam LED** is turned on. Next, press the Start/Pause Key. Temperature will be displayed in Fahrenheit .

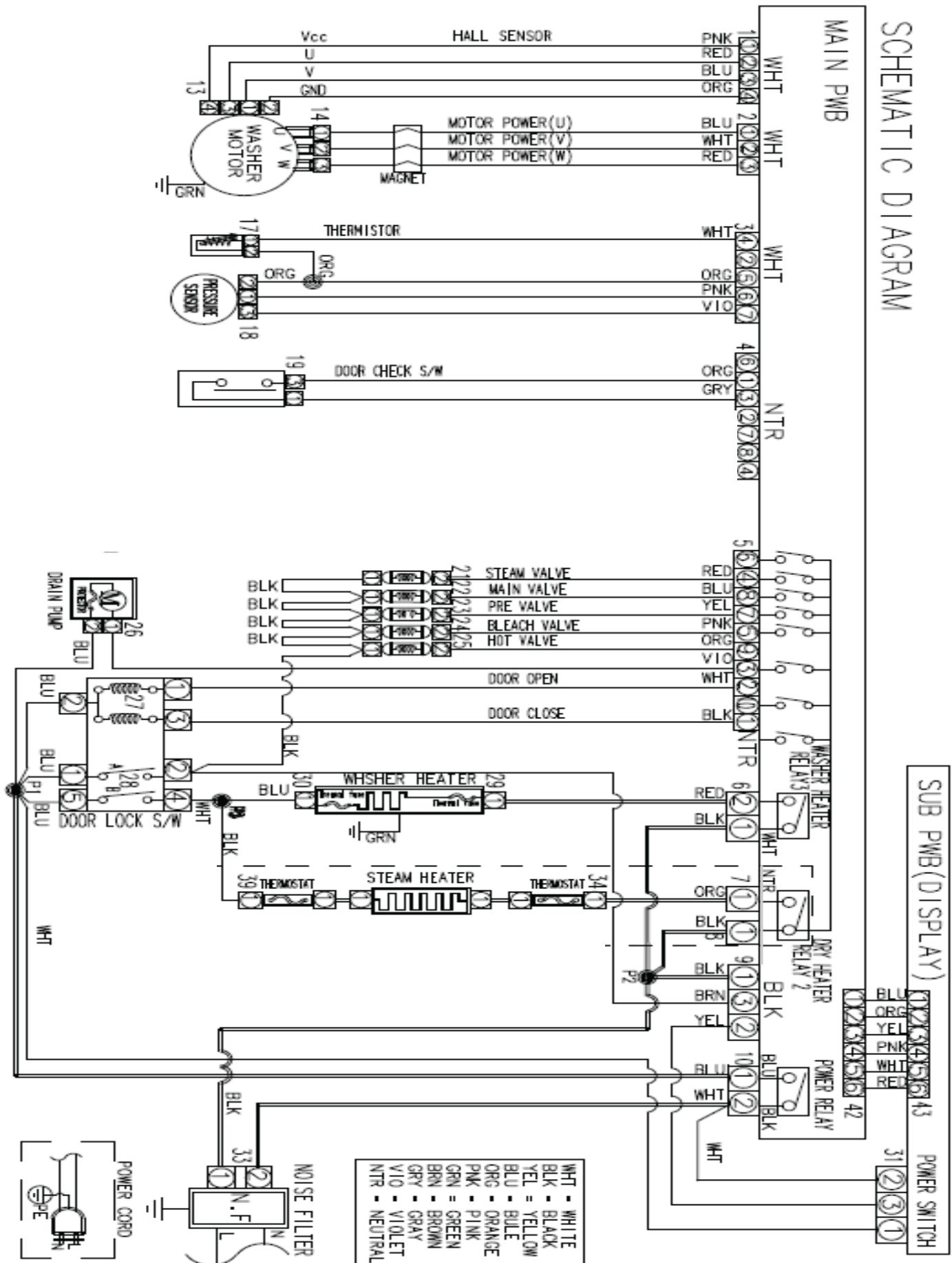
2. Turn the Dial so that the **Cold/Cold LED** is turned on. Next, press the Start/Pause Key. The door switch status will be displayed (CL if Closed, OP if Open).

3. Turn the Dial so that the **No Spin LED** is turned on. Next, press the Start/Pause Key. The door lock Switch status will be displayed (UL if unlocked, LO if locked).

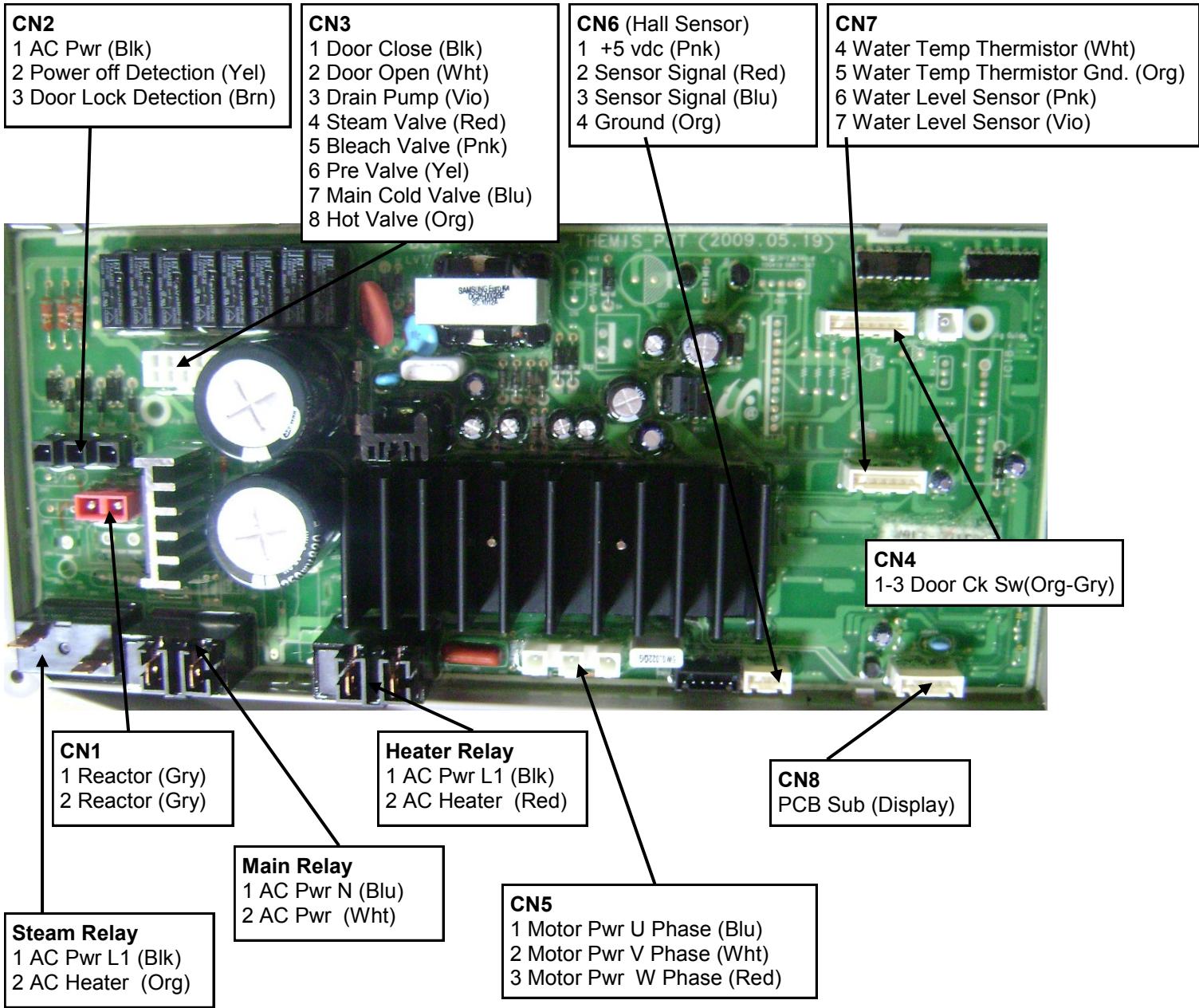
4. Water Frequency/Water Sensor Testing Select a cycle & start the washer, enter Service Mode & press Spin Key.

Turn the Dial so that the **Soil Level LED** is turned on. Next, press the Start/Pause Key. The Water Frequency will be displayed. The frequency will change as the unit fills

SCHEMATIC DIAGRAM



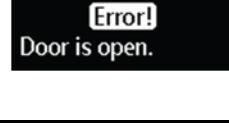
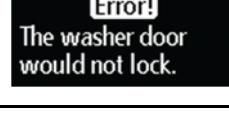
Washer Connector Checks WF350

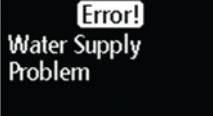
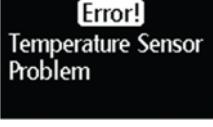
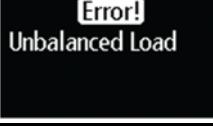
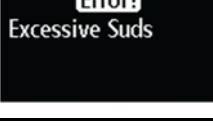


Water Level Sensor Check	Test 1	Test 2
Voltage: Connector CN 7 Pin 6 (Pink) and Pin 5 (Orange) And Connector CN 7 Pin 7 (Violet) and Pin 5 (Orange) Resistance: Connector CN 7 Pin 6 (Pink) and Pin 7 (Violet)	Operating voltage at no water in the drum-2.5VDC	Operating Resistance (Power off) Pin 6 (Pink) and Pin 7 (Violet) 22- 24Ω
Hall Sensor Check	Test 1	Test 2
Connector CN6 Pin 4 (Orange) and Pin 2 (Red) additionally Pin 4 (Orange) and Pin 3 (blue)	Manually spin the drum to see the voltage change, Power On. 0Vdc or 3.75Vdc	N/A
Motor Check	Test 1	Test 2
Connector CN5 Pin 1 (Blue), Pin 2 (White) and Pin 3 (Red)	Power Off 11.5Ω across Pins 1-2, Pins 1-3, & Pins 2-3	N/A

Door Lock Check	Test 1	Test 2
Connector CN2 Pin 3 (Brown) and CN3 Pin 1 (Black)	When Door is Locked or Unlocked there is a pulse of 120VAC for a few milliseconds.	With Power Off, the resistance between CN3 Pin 1 (Blk) and Main Relay pin 2 (Blu) will be between 47 - 57Ω
Door Unlock Check	Test 1	Test 2
Connector CN 2 Pin 3 (Brown) and CN3 Pin 2 (White)	When Door is Locked or Unlocked there is a pulse of 120VAC for a few milliseconds.	With Power Off, the resistance between CN3 Pin 2 (Wht) and Main Relay pin 2 (Blu) will be between 47 - 57Ω
Drain Motor Check	Test 1	Test 2
Connector CN2 Pin 3 (Brown) and CN3 Pin 3 (Violet)	120VAC with the pump On and 0VAC with the pump off	With Power Off, the resistance between CN3 Pin 3 (Vio) and Main Relay pin 2 (Blu) the resistance should be 13.9Ω
Water Valve Check	Test 1	Test 2
Connector CN2 Pin 3 (Brown) to CN3 Pin 5 (Pink), Pin 4 (Red) , Pin 7 (Yellow), Pin 8 (Blue), Pin 9 (Orange)	120VAC with the Valve On and 0VAC with the Valve off	Power Off, valve resistance is from 1202Ω - 1245Ω
Heater Relay Check	Test 1	Test 2
Connector CN2 Pin 3 (Brown) and Heater Relay Pin 2 (Red)	120VAC with the Heater On and 0VAC with the Heater off	Power Off, heater resistance is 16.6 Ω
Steam Heater Relay Check	Test 1	Test 2
Connector CN2 Pin 3 (Brown) and Heater Relay Pin 1 (Orange)	120VAC with the Heater On and 0VAC with the Heater off	Power Off, heater resistance is 15.6 Ω

Error Type	Error Mode		Details
	LED	LCD	
Water Level Sensor	LE 8	Error! Water Level Sensor Problem	Check the Hose where the sensor is connected, may be loose, pinched, damaged or clogged. Also check the sensor it may be disconnected or defective. The Main PCB may also be defective
Water Level Sensor	1E		Water Level Sensor Trouble, Signal out of range
Motor Drive Error or Hall Sensor error	3E	Error! The motor is not working properly.	Check the motor drive connector, it may be loose. The hall sensor may be disconnected, loose or damaged . Check for a foreign object inside the motor or motor damage. The stator might be loose or damaged. The drum might be overloaded from too many clothes or the relay or PCB might be defective.
	E3		
	bE 25		
Water Supply Error	nF 3	Error! Low Water Pressure	Check the water valve wiring harness. Check whether the water supply valve is clogged with foreign material and whether water is supplied properly. Check for reversed fill hoses Check water temperature, if sensed as higher than 50 °C in the Wool or Lingerie cycle it will create error. Check the relays, if they operate correctly replace the Main PCB.
Fill Hoses Reversed	nF1		Correct Hot/Cold hose connections
System Error	SF1 SF2 SF3		Replace PCB

Error Type	Error Mode		Details
	LED	LCD	
Drain Error	nD 1		<p>Check for Foreign material entering the pump or hoses.</p> <p>Check to make sure the wiring harness is connected properly.</p> <p>Check the water pump terminal .</p> <p>Check for freezing</p>
Power Error	2E 91 92		<p>Make sure to check the operating voltage. (An error occurs when under or over voltage is supplied.) Check whether a plug receptacle is used. When the connecting wires are too small (extension cord use), a momentary low voltage may drop up to 10 V</p> <p>Main PBA fault (sometimes)</p>
	PF		Momentary Power Failure
Communication Error	AE		<p>Check the wire connections and terminal contacts between the sub and main PBAs.</p> <p>Check for disconnected wires.</p> <p>Check whether the sub PCB is short circuited because of moisture. If the main PCB's communication circuit is faulty, replace it.</p>
EEPROM Fault.	11		Go to "EEPROM Clear Mode" If display shows "FAiL", Replace Machine Control Board
Switch Error (Main Relay Error)	E2 15		<p>Check whether either the Power switch or a tact switch (any button) is stuck down.</p> <p>Check whether the service PBA holding screws are fastened too tight pinching the contacts</p> <p>If the main PBA switching IC on/off error has occurred, replace the main PBA.</p>
	SR		The "E2" error occurs if the main relay connections are incorrect. Check the connections. If there is no error in the connections, replace the main PBA
	dS 22 (Before operation)		
Door Error	dL 18 (During operation)		<p>Check the door switch and latch alignment .</p> <p>Check the latch for damage</p> <p>Check the wiring harness to the latch.</p> <p>Check the door switch. Replace if faulty.</p>
	LO 2 (Unlock Fail)		<p>Check the main PBA door sensing circuit. Replace if faulty.</p> <p>Finally verify the operation of the Main PCB</p>
	FL 4 (Lock Fail)		

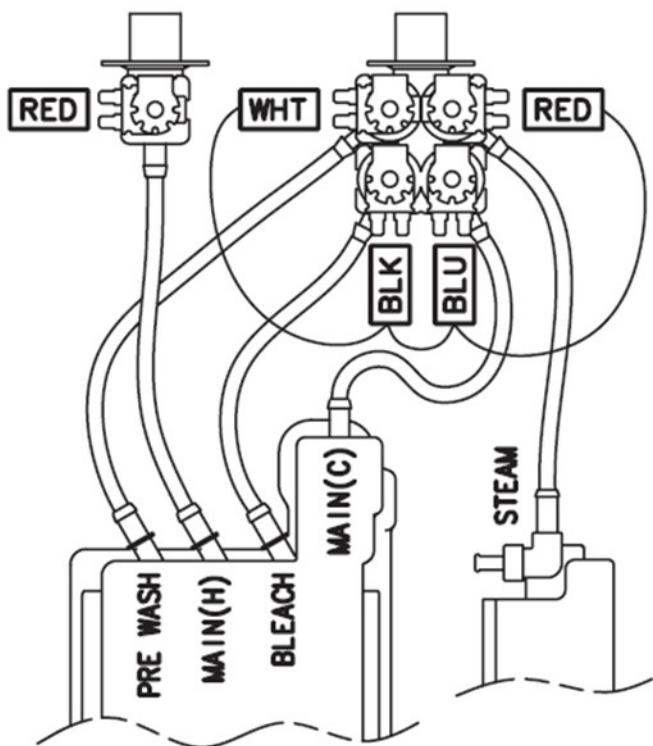
Error Type	Error Mode		Details
	LED	LCD	
Heater Error	Hr 36 (Heater Relay)		<p>This can be a short or a wire disconnected to the heater circuit. This can also be a problem with the tub contacting the heater or if the water in the tub is frozen or there is no water. The error is triggered by temperatures above 145C. If the heater has no error, this occurs because of a PBA relay malfunction. Check the wiring harness to the heater.</p> <p>An Hr error occurs if the steam heater is faulty, replace it.</p>
	9E1		EMC Filter issue or a noise spike from an external device
Overflow error	OE 1E		Water is supplied continually because the water level detection does not work. - Verify the drain is working properly, the water level detection does not work and water is supplied continually. Verify the water valves shut off fully. Finally check the water level sensor.
Temperature Sensor Error	29 		The washing heater temperature sensor in the tub has an error. Check the connections for the washing heater temperature sensor connector.
Unbalance Error	dC 10		Check the type of laundry. Check whether it may cause an unbalanced situation. - Educate the consumer in this case, to press pause, reposition the load or remove a few items. Press start to continue and complete the wash cycle.
Silver Care Kit (Silver Care PCB) Failure.	7E		Check Silver Care PCB, Main PCB & Wire-harness
Mems or Harness Failure	8E		Check MEMS PCB, Main PCB & Wire-harness
Foaming Detected	SUDs Sd SUD		This occurs when too much foaming is detected. It is also displayed while foaming is removed. When the removal is finished, the normal cycle proceeds. (This is one of the normal operations. It is an error for preventing non-sensing faults.)
<p>Check whether the washing machine is level to the floor with respect to the original position of the washing machine prior to service. Doing this now will reduce the need for a redo call and customer dissatisfaction.</p> <p>✓ Vibrations can shorten the lifetime of the product.</p>			

Location considerations
<p>Do not install your washer in areas where water may freeze, since your washer will always maintain some water in its water valve, pump, and hose areas. This can cause damage the belts, the pump, hoses and other components. Operating temperature should be above 60°F/16°C.</p>

When installing a washer and dryer on the first, or second floor, do not exceed this leg adjustment height for stability.



Water valve connections for the Detergent Drawer



When using non-HE detergents, or using too much detergent for the water hardness and soil level of the clothing, over sudsing will occur. When this happens there will be leaks out of the detergent drawer and door. Please advise consumer of proper detergent usage.



It is normal for some water to remain in Detergent Drawer after it completes washing. Bleach is usually flushed out into the tub at the beginning of the washing. Also, its compartment is washed again during the following rinse cycle, removing any remnants.

Items Packed With Washer

BOLT-SPANNER (10-13mm Wrench) DC60-40146A
ASSY HOSE WATER Cold DC97-15692A
ASSY HOSE WATER Hot DC97-156491A
CAP-FIXER DC67-00307A
HOSE-HANGER DC62-10278A

NOTICE

The unit sometimes will pause during Sanitize, or Pure Cycle, wash modes and appear not to be functional. The Sanitize and Pure Cycle wash cycles have target temperatures to assure washer performance. If the water temperature doesn't meet the target temperature during the wash cycle, the washer will automatically add extra time to allow the heater to bring the water up to the programmed, or target temperature. In this stage, the displayed time will pause and hold until the heating operation has been completed. It is at this point that the customer may feel that operation has stopped. (The maximum added programmed time is 30 minutes)